MULTIMEDIA UNIVERSITY®

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM 2215)

BDA2024 – DATA ANALYTICS FOR BUSINESSES

(All sections/Groups)

21 DECEMBER 2022
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages (excluding cover page) with 2 sections.
2. Attempt **ALL** questions in Section A and Section B. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

SECTION A: Case Study (40 Marks)

Future Data Analytics Trends

Artificial Intelligence

In recent years, there have been a number of technological advances that have revolutionized the way businesses around the world operate, including machine learning, artificial intelligence, robotics, and automation, among others. Data analysis is rapidly evolving with AI, upping human abilities at both the personal and professional levels, as well as assisting businesses to gain a better understanding of the data they collect. The business landscape has changed dramatically since COVID-19, rendering historical data somewhat obsolete. The market now has a vast array of new scalable and clever AI and machine learning techniques capable of dealing with small data sets, unlike traditional AI techniques.

In the long run, businesses would benefit significantly from AI systems by formulating processes that are efficient and effective. There are many ways in which artificial intelligence can be used to boost business value. This includes forecasting customer demand to increase sales, improving warehouse stocking levels, and speeding up delivery times to increase customer satisfaction. A good AI system can be highly adaptive, protect personal information, be faster, and provide a higher return on investment as well. AI is also proving beneficial across the globe as a tool for promoting justice, ensuring inclusive education, as well as improving the quality of life for disadvantaged communities.

Data Democratization

Data democratization aims to empower all members of an organization, regardless of technical expertise, to interact comfortably with data and to discuss it confidently, ultimately leading to better decisions and customer experiences. Today, companies are embracing data analytics as a core element of any new project and a key business driver. With data democratization, non-technical users can gather and analyze data without the assistance of data stewards, system administrators, or IT staff.

With instant access to and understanding of data, teams can make faster decisions. A democratized data environment is an essential aspect of managing big data and realizing its potential. Today, businesses that equip their employees with the right tools and understanding are better able to make decisions and provide excellent customer service. The Chief Financial Officer (CFO) might provide financial information to the HR department, the marketing department, the products department, the sales department, and the operations department so they can conduct their own data discovery and visual analysis and determine the effectiveness of their actions.

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Augmented Analytics

In today's predictive analytics world, augmented analytics is one of the main trends you are going to see. Augmented analytics uses machine learning to automate and process data as well as derive insights from it that would otherwise be handled by a data scientist or specialist. An augmented analytics solution can help business users and executives better understand their business context, ask relevant questions, and uncover insights more quickly. Additionally, augmented analytics helps analysts and advanced users perform more thorough analysis and data preparation tasks, even if they don't possess deep analytical expertise.

Data-as-a-Service

Data as a service, or DaaS for short, is a cloud-based software tool used to analyze and manage data, such as data warehouses and business intelligence tools, which can be run from anywhere and anytime. In essence, it allows subscribers to access, use, and share digital files online via the internet. Since the COVID-19 pandemic broke out, the DaaS industry in the healthcare sector has seen growth opportunities. As users have increased access to high-speed internet, it is expected that DaaS will have a wider reach as well. DaaS will ultimately lead to a greater level of productivity within the business. The use of DaaS in big data analytics will simplify business review tasks for analysts and make sharing data easier across departments and industries. Since more and more businesses are turning to the cloud to modernize their infrastructure and workloads, DaaS has become a more common method of integrating, managing, storing, and analyzing data. Self-service data analysis has become the next big thing in data analytics through cloud-based management systems. Human resources and finance leaders are leading this movement, investing heavily in cloud-based technology solutions that allow all users to have direct access to the information they need. Self-service analytics puts data directly in the hands and heads of the users whom it is intended to serve – they are the ones who need it.

Data Analytics Automation

Data Analytics Automation refers to automating analytical tasks with computer systems and processes to minimize human involvement. The automation of data analytics processes can have a significant impact on the productivity of many enterprises. Furthermore, it has paved the way for analytic process automation, known to assist in unlocking predictive and prescriptive insights for faster wins and higher returns on investment. The technology will accelerate productivity and improve data utilization. This tool has one notable feature: it can search categorical data to create a set of relevant features.

Source:

Mathias, S. (2022). Top 10 Future Data Analytics Trends in 2023. https://www.datasciencecentral.com/top-10-future-data-analytics-trends-in-in-2023/

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QUESTION 1

How will data analytics generate the greatest business value in the future?

(10 marks)

QUESTION 2

Natural language processing (NLP) is an important future trend of data analytics. How will businesses apply NLP in providing better voice assistance to customers?

(10 marks)

QUESTION 3

Predict **FIVE (5)** legal issues of analytics, which are most likely to occur in future.

(10 marks)

QUESTION 4

What are the **FIVE (5)** most important characteristics of data scientists in future business world?

(10 marks)

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SECTION B: Structured Questions (60 Marks)

QUESTION 1

What are **FIVE (5)** reasons for the growing popularity of data mining in the business world? (15 marks)

QUESTION 2

Propose **FIVE (5)** techniques, which are suitable to be used for classification modelling. (15 marks)

QUESTION 3

Propose **THREE (3)** types of analytics reports, which is essential to support the digital transformation of a business. Support your answers with examples. (15 marks)

QUESTION 4

Formulate **FIVE (5)** assumptions of generating an optimal business solution using Linear Programming. (15 marks)

(Total: 100 marks)

End of Paper